KDB 996369 D04 Comments

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Comments on KDB 996369 D04 Module Integration Guide

The FCC has opened up this KDB for comments on section 3.2 which specifies the frequency spectrum to be investigated. dB Technology would like to submit the following observations.

The frequency spectrum to be investigated for radiated emissions is normally defined in part 15.33.

15.33 (a) defines the rules for an **intentional** radiator. This also requires the highest frequency of any unintentional radiator functions to be taken into account (cross referencing 15.33 (b)).

15.33 (b) defines the rules for **unintentional** radiator tests, this time not talking into account the operating frequency of any transmitter (i.e. not referencing 15.33 (a)).

KDB 996369 D04 seems to modify these rules because of paragraph 2 of section 3.3. This paragraph deals with testing unintentional radiator emissions, but because it is within Section 3, the frequency spectrum rules of 3.2 apply. This extends the normal rules of 15.33 (b) for unintentional radiator emissions to now take into account the operating frequency of the transmitter.

Generally, paragraph 2 of section 3.3 seems to fit uneasily within section 3. The introduction to section 3 uses the phrases "recommendation" and "guidance" and specifies that the transmitter(s) should be on, whereas unintentional radiator emissions testing is usually mandatory (e.g. under the SDoC authorisation) and the transmitter should preferably be turned off.

Would the FCC consider moving paragraph 2 of section 3.3 (or a modified version) to Section 2 d)? It would separate the **mandatory** unintentional radiator tests from the **recommended** transmitter spot checks. In addition, the frequency spectrum rules of Section 3.2 would no longer apply to unintentional radiator tests (meaning that the normal rules of 15.33 (b) would be reinstated).

This would leave Section 3 to be entirely focused on guidance for testing with the transmitter(s) on, for which the terms "strongly recommended", "spot checks" and "guidance" are appropriate. Following this philosophy, the frequency spectrum rules of 3.2 would be clear in the context of setting the mandatory obligation of the manufacturer to take responsibility for full compliance of the final product, but would leave some room for discretion in terms of the additional testing performed.

As an example, a host product manufacturer may note the fact that section 3.2 includes frequencies up to the 10th harmonic of the transmit operating frequency. On the other hand, a review of the certified module test report may show spurious emissions close to the limit for the third harmonic but no other spurious within 20 dB of the limit. The manufacturer might decide to go beyond this guidance in one respect and perform tests at the third harmonics for three operating frequencies

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(bottom, middle and top channels,) whilst perhaps deciding not to perform tests all the way up to the 10th harmonic of the transmit operating frequency. It would be entirely the responsibility of the host product manufacturer to assess whether this level of testing was sufficient to meet the mandatory obligation to ensure full compliance with the FCC rules.

This whole process would also be made easier if there was a requirement for a radio module manufacturer to declare the highest frequency within the unintentional radiator circuitry (either within the user manual or stated on the grant itself).